

## CLAIMS

1. An adjustable eddy electrostatic precipitator, comprising:

5 a main body, having an inner space with an air guiding plate of helical shape, an entrance for air and an exit for air;

an electrode array close to said entrance, ionizing particles floating in air;

10 an adjustable opening at said exit, having an adjustable aperture; and

a precipitating device, connected with a bias high voltage, for adsorbing ionized particles.

2. The adjustable eddy electrostatic precipitator according to claim 1, wherein a fan is mounted at said entrance or said exit.

15 3. The adjustable eddy electrostatic precipitator according to claim 1, wherein said inner space of said main body is shaped like a truncated cone, with said air guiding plate being shaped like a helix of decreasing diameter.

20 4. The adjustable eddy electrostatic precipitator according to claim 1, wherein said inner space of said main body is shaped like a cylinder, with said air guiding plate being shaped like a helix of constant diameter.

25 5. The adjustable eddy electrostatic precipitator according to claim 1, wherein said adjustable opening is an iris diaphragm with an adjustable aperture..

6. The adjustable eddy electrostatic precipitator according to claim 1, wherein said adjustable opening is a slit opening with an adjustable width.

30 7. The adjustable eddy electrostatic precipitator according to claim 6, wherein said adjustable opening has opaque plates gliding

between a pair of rails.

8. The adjustable eddy electrostatic precipitator according to claim 1, wherein said electrode array has a plurality of pointed electrodes.

5 9. The adjustable eddy electrostatic precipitator according to claim 1, wherein said electrode array has a plurality of rack-shaped linear electrodes.

10. The adjustable eddy electrostatic precipitator according to claim 1, wherein said electrode array has a grid.

10 11. The adjustable eddy electrostatic precipitator according to claim 1, wherein said precipitating device has a flat surface facing said main body.

15 12. The adjustable eddy electrostatic precipitator according to claim 1, wherein said precipitating device is shaped like an obtuse cone.

13. The adjustable eddy electrostatic precipitator according to claim 1, wherein said precipitating device is shaped like a cylinder.

14. The adjustable eddy electrostatic precipitator according to claim 5, wherein said adjustable opening has a plurality of circular plates.

20 15. The adjustable eddy electrostatic precipitator according to claim 14, wherein each of said circular plates has a fixed bolt at a fixed position on said main body and a movable bolt revolving around said fixed bolt for varying said adjustable aperture.

25 16. The adjustable eddy electrostatic precipitator according to claim 13, wherein said precipitating device has an axial wire connected with high voltage.

17. The adjustable eddy electrostatic precipitator according to claim 1, wherein said air guiding plate covers at least one full twist.

18. The adjustable eddy electrostatic precipitator according to claim 8, wherein said pointed electrodes of said electrode array are set on a section of said air guiding plate close to said entrance.

5 19. The adjustable eddy electrostatic precipitator according to claim 9, wherein said rack-shaped electrodes of said electrode array are set on a section of said air guiding plate close to said entrance.